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EXAMINER	
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2474	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,228	LIU, ENHUI	
	Examiner	Art Unit	
	BENJAMIN ELLIOTT	2474	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 September 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-40 have been examined and are pending. Claims 2-3 have been canceled. In response to the Office action mailed 7/20/2009, claims 23-40 have been canceled, and claims 1, 5, 17, 18, 21, and 22 have been amended. Claims 1 and 4-22 stand rejected.

Response to Arguments

2. Applicant's arguments with respect to claims 1 and 4-22 have been considered but are moot in view of the new ground(s) of rejection.

The amendment received at the Office on 9/14/2009 necessitated Examiner's re-interpretation of the claims. The newly amended method of Claim 1 recites the steps being performed by an "edge router" receiving from a "service control equipment" information pertaining to service traffic flows. Applicant argues the management of traffic is performed within the traffic management device as disclosed by Morford, without any interaction with the service control layer of the network. Examiner respectfully disagrees.

In light of the newly amended claims, Examiner interprets the traffic management device of Morford to be consistent with the functionality of an "edge router" as described in Claim 1. The traffic management device can be disposed anywhere in the network and may also act as a router as disclosed by Morford in Col. 8, lines 15-29:

> The functionality of traffic management device 130 can be integrated into a variety of network devices that are typically located at strategic points in computer networks, such as firewalls, routers, gateways, proxies, packet capture devices and bandwidth management devices. As FIGS. 1 and 2A show, the

> traffic management device 130, in one embodiment, is disposed on the communication path between network 40 and router 22. In other embodiments, multiple traffic management devices can be disposed at strategic points in a given network infrastructure to achieve various objectives. For example, the traffic monitoring functionality described herein may be deployed in multiple network devices and used in redundant network topologies by integrating the network traffic synchronization functionality described in U.S. application Ser. No. 10/611,573, incorporated by reference above.

The traffic management functionality may be incorporated in any strategic point within the network, within any known device (i.e. router or gateway) to perform the responsibilities of traffic management.

The service control functionality, as disclosed in Claim 1, may be performed by a network administrator via network interface. Morford describes, as disclosed by newly amended Claim 1, "obtaining, at the edge router, service traffic flow information of a service traffic flow from a service control equipment..." in Col. 9, lines 45-61:

> Administrator interface 150 facilitates the configuration of traffic management device 130 to adjust or change operational and configuration parameters associated with the device. For example, administrator interface 150 allows administrators to select identified traffic classes and associate them with traffic management policies. *For example, administrator interface 150 allows a network administrator to define one or more service classes supported by differentiated services network 50 and supply the labels, codes, tags or other information required to designate packets to receive a given class of network service. Administrator interface 150 also allows a network administrator to select a given traffic class corresponding to a network application and specify a traffic management policy that causes traffic management device 130 to mark data flows associated with that traffic class for a higher service class when the performance of that application degrades below a configured threshold.* Administrator interface 150 also displays various views associated with a hierarchical traffic classification scheme and allows administrators to configure or revise the hierarchical traffic classification scheme. Administrator interface 150 can be a command line interface or a graphical user interface accessible, for example, through a conventional browser on client device 42.

The broadly interpreted "service traffic flow information" is consistent with service labels, service codes, or service tags required to designate packets for receiving a specific class for network service. The traffic management device receives this information and marks data flows associated with that traffic class for a higher class if the performance falls below a specific threshold.

Examiner maintains the rejection of Claim 19 under 35 U.S.C. § 102(e).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-16, 18, 20, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 18 recite throughout the limitation "a service traffic flow". As an example, Examiner points to Claim 1, lines 4 and 6. Examiner is unsure if the "a service traffic flow" of line 6 is antecedent to "a service traffic flow" of line 9. The same occurs in Claim 18 with regards to lines 4 and 6. Clarification is respectfully requested.

Claims 2-16 and 20 are rejected as being dependant upon the rejected base claim 1, and claim 22 is rejected as being dependant upon the rejected base claim 18.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claim 19 is rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent 7,496,661 B1 to Morford et al. (hereinafter "Morford").

Regarding Claim 19, Morford discloses **a system for providing quality of service (QoS) guarantee** (Morford: Abstract), **comprises a service control equipment, a resource control equipment, and an edge router** (Morford: Col. 8, lines 15-19; The functionality of the traffic management device may be incorporated into a network device such as a router.), **wherein the edge router comprises: a service traffic flow information obtaining means** (Morford: Col. 7, lines 7-9. This is consistent with the traffic management device.), **for creating a service traffic flow classification table** (Morford: Col. 11, lines 9-14. Service identification tables are

created to identify a particular service type based on the data flow.), **obtaining service traffic flow information of a service traffic flow from a service control equipment notifying of changes of the service traffic flow (**Morford: Col. 9, lines 45-61. "Service traffic flow information" is consistent with service labels, service codes, or service tags required to designate packets for receiving a specific class for network service. The traffic management device receives this information and marks data flows associated with that traffic class for a higher class if the performance falls below a specific threshold.)**, and updating dynamically table entries of the service traffic flow classification table according to the obtained service traffic flow information** (Morford: Col. 12, lines 29-34 and lines 52-58. Traffic classes are automatically created and stored in a database.);

a label switching path establishing means, for establishing a plurality of label switching paths (Morford: Figure 1);

a label switching path configuring means, for configuring the attributes of the label switching paths (Morford: Col. 4, lines 23-25. the core network is MPLS-based and uses a QoS mechanism such as DiffServ.);

a first performing means, for classifying and conditioning the service traffic flows entering into the core network according to the service traffic flow classification table (Morford: Figure 2B and Col. 7, lines 57-59. The traffic management device may be located between the access link and router (of Figure 2B), thus being in the downlink stream. Col. 7, lines 7-12. Traffic management device is configured to monitor and manage data flow based on performance attributes.);

and a second performing means, for forwarding the processed service traffic flow according to the attributes of the label switching paths (Morford: Traffic management device adds tags for outbound packets from egress interface of router. Col. 8, lines 15-19; The functionality of the traffic management device may be incorporated into a network device such as a router.).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1, 4-18, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 7,496,661 B1 to Morford et al. (hereinafter "Morford"), in view of United States patent Application Publication 2004/0215817 A1 to Qing et al. (hereinafter "Qing").

Regarding Claim 1, Morford discloses **a method for providing quality of service (QoS) guarantee** (Morford: Abstract), **wherein the method comprises the steps of:**

creating, at an edge router, a service traffic flow classification table (Morford: Col. 11, lines 9-14. Service identification tables are created to identify a particular service type based on the data flow. Figure 3 shows the embodiment of the traffic management device, consistent with an "edge router".);

establishing, at an uplink interface of the edge router, a plurality of label switching paths (Morford: Figure 1);

configuring the attributes of the label switching paths (Morford: Col. 3, lines 55-66. (LSPs can be configured for non-real-time and real-time traffic.);

obtaining, at the edge router, service traffic flow information of a service traffic flow from a service control equipment (Morford: Col. 9, lines 45-61. "Service traffic flow information" is consistent with service labels, service codes, or service tags required to designate packets for receiving a specific class for network service. The

traffic management device receives this information and marks data flows associated with that traffic class for a higher class if the performance falls below a specific threshold.);

updating dynamically, at the edge router, table entries of the service traffic flow classification table according to the obtained service traffic flow information (Morford: Col. 12, lines 29-34 and lines 52-58. Traffic classes are automatically created and stored in a database.);

classifying and conditioning the service traffic flows entering into a core network at a downlink interface of the edge router according to the service traffic flow classification table (Morford: Figure 2B and Col. 7, lines 57-59. The traffic management device may be located between the access link and router (of Figure 2B), thus being in the downlink stream. Col. 7, lines 7-12. Traffic management device is configured to monitor and manage data flow based on performance attributes.);

and forwarding the processed service traffic flows by the uplink interface of the edge router according to the attributes of the label switching paths (Morford: Traffic management device adds tags for outbound packets from egress interface of router. Col. 8, lines 15-19; The functionality of the traffic management device may be incorporated into a network device such as a router.).

Although Morford discloses that network administration may influence the traffic flows by assigning classes, Morford does not explicitly disclose *the service control equipment notifying the changes of the service traffic flow to the edge router in one or*

more of the following occasions: when a service session is initialized, when a service traffic flow of the service session changes, or when the service session ends.

Qing discloses a method for providing QoS in an IP network. Qing discloses **the service control equipment notifying the changes of the service traffic flow to the edge router in one or more of the following occasions: when a service session is initialized, when a service traffic flow of the service session changes, or when the service session ends** (Qing: [0085]. When a service session is successful (consistent with when a service session is initialized), the CM (bearer network resource manager) notifies the edge router. The edge router then creates items corresponding to the traffic stream into an entry to be placed into a traffic stream classification table.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Morford to allow an edge router to receive changes of service traffic flow as disclosed by Qing. This benefits the method by supplying edge routers with information to transmit packets between one another and allowing each to guarantee QoS through an IP network (Qing: [0018] and [0021]).

Regarding Claim 4, Morford in view of Qing discloses **the method according to claim 1, wherein the step of obtaining service traffic flow information is: directly obtaining the service traffic flow information from the service control equipment** (Morford: Col. 9, lines 45-61. "Service traffic flow information" is consistent with service labels, service codes, or service tags required to designate packets for receiving a specific class for network service. The traffic management device receives

this information and marks data flows associated with that traffic class for a higher class if the performance falls below a specific threshold.).

Regarding Claim 5, Morford in view of Qing discloses **the method according to claim 1, wherein the step of obtaining service traffic flow information is: obtaining the service traffic flow information from the service control equipment through a resource control equipment, the resource control equipment distributing route and resource according to Qos requirements of the service traffic flow** (Morford: Col. 3, lines 61-67 and Col. 4, lines 1-3. RSVP is used for the paths with QoS restraints.).

Regarding Claim 6, Morford in view of Qing discloses **the method according to claim 1, wherein the step of establishing a plurality of label switching paths is: configuring the label switching paths statically at the uplink interface of the edge router** (Morford: Col. 9, lines 50-61. Administrator may supply labels to packets for forwarding. Col. 8, lines 15-19; The functionality of the traffic management device may be incorporated into a network device such as a router.).

Regarding Claim 7, Morford in view of Qing discloses **the method according to claim 1, wherein the step of establishing a plurality of label switching paths is: establishing the label switching paths dynamically via constraint- routing label distribution protocol (CR-LDP) or resource reservation protocol-traffic engineering (RSVP-TE) at the uplink interfaces of the edge router** (Morford: Col. 3, lines 61-65. Col. 8, lines 15-19; The functionality of the traffic management device may be incorporated into a network device such as a router.).

Regarding Claim 8, Morford in view of Qing discloses **the method according to claim 1, wherein the step of establishing a plurality of label switching paths further comprises the step of:**

constructing an edge-to-edge label switching path concatenated pipe or a virtual multi- protocol label switching network on the core network by using the label switching paths (Morford: Col. 4, lines 23-25. The core network is MPLS based.).

Regarding Claim 9, Morford in view of Qing discloses **the method according to claim 1, wherein the step of configuring the attributes of the label switching paths is:**

configuring traffic class (Morford: Col. 7, lines 16-18. Data flows are marked by class.), **priority** (Morford: Col. 6, lines 46-48), **QoS class** (Morford: Col. 6, lines 46-48. QoS may be delay, jitter, or loss.), **bandwidth attribute of the label switching paths by network capacity planning and traffic engineering statistics** (Morford: Col. 6, lines 50-59).

Regarding Claim 10, Morford in view of Qing discloses **the method according to claim 1, wherein the service traffic flow classification table comprises: service traffic flow identification** (Morford: Col. 29, lines 48-53. Traffic class), **priority** (Qing: [0085]), **QoS class** (Qing: [0085]), **bandwidth requirement** (Morford: Col. 30, lines 1-5. Bandwidth utilization), **and outgoing aggregation path information** (Qing: [0085]; consistent with forwarding path parameters.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Morford to allow an edge router to receive

changes of service traffic flow as disclosed by Qing. This benefits the method by supplying edge routers with information to transmit packets between one another and allowing each to guarantee QoS through an IP network (Qing: [0018] and [0021]).

Regarding Claim 11, Morford in view of Qing discloses **the method according to claim 10, wherein the step of classifying and conditioning the service traffic flows entering into a core network at a downlink interface of an edge router according to the service traffic flow classification table comprises the steps of:**

obtaining a service traffic flow identification of the service traffic flow entering into the core network (Morford: Col. 10, lines 10-12. Attribute identifiers include service IDs.);

looking up the service traffic flow classification table according to the service traffic flow identification (Morford: Col. 11, lines 55-62 and Col. 12, lines 29-34. Traffic class comprises matching rules stored in a database.);

classifying and conditioning the service traffic flows entering into the core network according to the corresponding service traffic flow information in the service traffic flow classification table (Morford: Col. 7, lines 7-12. Traffic management device is configured to monitor and manage data flow based on performance attributes.).

Regarding Claim 12, Morford in view of Qing discloses **the method according to claim 11, wherein the step of classifying and conditioning the service traffic flows entering into the core network according to the corresponding service traffic flow information in the service traffic flow classification table comprises**

the steps of:

classifying and marking the service traffic flows according to the corresponding priority and QoS class (Morford: Col. 6, lines 62-67 and Col. 7, lines 1-6. The differentiated services network performs relative priority marking and service class marking.);

shaping and policing the service traffic flows according to the corresponding bandwidth requirement (Morford: Col. 11, lines 17-21. Bandwidth is managed by a default bandwidth management policy.);

selecting the forwarding mode and path of the service traffic flows according to the corresponding outgoing aggregation path information (Morford: Figure 2C. The router may select either access link 21a or 21 b.).

Regarding Claim 13, Morford in view of Qing discloses **the method according to claim 12, wherein the forwarding mode of the service traffic flow comprises: best-effort delivery in accordance with network protocols** (Morford: Col. 4, lines 45-50. MPLS may have a QoS class for best-effort traffic.);

delivery through the corresponding label switching paths of this class of traffic (Morford: Col. 7, lines 23-26. A traffic flow may be downgraded (to a lower class of service).).

Regarding Claim 14, Morford in view of Qing discloses **the method according to claim 13, wherein the step of forwarding the processed service traffic flow by an uplink interface of the edge router according to the attributes of the label switching paths comprises:**

steering the service traffic flow to the egress router of the core network via network protocols when the best-effort delivery in accordance with network protocols is selected as the forwarding mode of the service traffic flow (Morford: Col. 8, lines 3-5. Network may not be differentiated service domain.);
steering the service traffic flow to the egress router of the core network through the label switching path concatenated pipe or the virtual multi-protocol label switching network when the delivery through the corresponding label switching path of this class of traffic is selected as the forwarding mode of the service traffic flow (Morford: Col. 4, lines 23-25. The core network is MPLS based.).

Regarding Claim 15, Morford discloses **the method according to claim 1,** but is silent on modifying the table if the traffic flow changes.

Qing discloses **wherein the method further comprises the step of: modifying the service traffic flow classification table according to change of the service traffic flow when the service traffic flow is changed** (Qing: [0085]. When a service session is successful (consistent with when a service session is initialized), the CM (bearer network resource manager) notifies the edge router. The edge router then creates items corresponding to the traffic stream into an entry to be placed into a traffic stream classification table.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Morford to allow an edge router to receive changes of service traffic flow as disclosed by Qing. This benefits the method by

supplying edge routers with information to transmit packets between one another and allowing each to guarantee QoS through an IP network (Qing: [0018] and [0021]).

Regarding Claim 16, Morford in view of Qing discloses **the method according to claim 15, wherein the step of modifying the service traffic flow classification table when the service traffic flow is changed comprises:**

obtaining and adding the service traffic flow information of a service session into the service traffic flow classification table when the session is established (Qing: [0085]. When a service session is successful (consistent with when a service session is initialized), the CM (bearer network resource manager) notifies the edge router. The edge router then creates items corresponding to the traffic stream into an entry to be placed into a traffic stream classification table.);

canceling the service traffic flow information of the service session from the service traffic flow classification table when the service session is ended (Qing: [0085]. The edge router removes the entry from the traffic stream classification table when the subscriber terminates the session.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Morford to allow an edge router to receive changes of service traffic flow as disclosed by Qing. This benefits the method by supplying edge routers with information to transmit packets between one another and allowing each to guarantee QoS through an IP network (Qing: [0018] and [0021]).

Regarding Claim 17, Morford discloses **an apparatus for providing quality of service (QoS) guarantee** (Morford: Abstract), **wherein the apparatus comprises:**

a service traffic flow information obtaining means (Morford: Col. 7, lines 7-9. This is consistent with the traffic management device.), **for creating a service traffic flow classification table** (Morford: Col. 11, lines 9-14. Service identification tables are created to identify a particular service type based on the data flow.), **obtaining service traffic flow information of a service traffic flow from a service control equipment notifying of changes of the service traffic flow** (Morford: Col. 9, lines 45-61. "Service traffic flow information" is consistent with service labels, service codes, or service tags required to designate packets for receiving a specific class for network service. The traffic management device receives this information and marks data flows associated with that traffic class for a higher class if the performance falls below a specific threshold.), **and updating dynamically table entries of the service traffic flow classification table according to the obtained service traffic flow information** (Morford: Col. 12, lines 29-34 and lines 52-58. Traffic classes are automatically created and stored in a database.);

a label switching path establishing means, for establishing a plurality of label switching paths (Morford: Figure 1);

a label switching path configuring means, for configuring the attributes of the label switching paths (Morford: Col. 4, lines 23-25. the core network is MPLS-based and uses a QoS mechanism such as DiffServ.);

a first performing means, for classifying and conditioning service traffic flows entering a core network according to the service traffic flow classification table (Morford: Figure 2B and Col. 7, lines 57-59. The traffic management device may be

located between the access link and router (of Figure 2B), thus being in the downlink stream. Col. 7, lines 7-12. Traffic management device is configured to monitor and manage data flow based on performance attributes.);

and a second performing means, for forwarding the processed service traffic flows according to the attributes of the label switching paths (Morford: Traffic management device adds tags for outbound packets from egress interface of router. Col. 8, lines 15-19; The functionality of the traffic management device may be incorporated into a network device such as a router.).

Although Morford discloses that network administration may influence the traffic flows by assigning classes, Morford does not explicitly disclose *the service control equipment notifying the changes of the service traffic flow to the edge router in one or more of the following occasions: when a service session is initialized, when a service traffic flow of the service session changes, or when the service session ends.*

Qing discloses a method for providing QoS in an IP network. Qing discloses **the service control equipment notifying the changes of the service traffic flow to the edge router in one or more of the following occasions: when a service session is initialized, when a service traffic flow of the service session changes, or when the service session ends** (Qing: [0085]. When a service session is successful (consistent with when a service session is initialized), the CM (bearer network resource manager) notifies the edge router. The edge router then creates items corresponding to the traffic stream into an entry to be placed into a traffic stream classification table.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Morford to allow an edge router to receive changes of service traffic flow as disclosed by Qing. This benefits the method by supplying edge routers with information to transmit packets between one another and allowing each to guarantee QoS through an IP network (Qing: [0018] and [0021]).

Regarding Claim 18, Morford discloses **an edge router for providing quality of service (QoS) guarantee** (Morford: Abstract; Col. 8, lines 15-19; The functionality of the traffic management device may be incorporated into a network device such as a router.), **comprises a configuration management interface** (Morford: Col. 7, lines 7-9. This is consistent with the traffic management device.), **wherein the edge router further comprises:**

a service traffic flow information obtaining means (Morford: Col. 7, lines 7-9. This is consistent with the traffic management device.), **for creating a service traffic flow classification table** (Morford: Col. 11, lines 9-14. Service identification tables are created to identify a particular service type based on the data flow.), **obtaining service traffic flow information of a service traffic flow from a service control equipment notifying of changes of the service traffic flow** (Morford: Col. 9, lines 45-61. "Service traffic flow information" is consistent with service labels, service codes, or service tags required to designate packets for receiving a specific class for network service. The traffic management device receives this information and marks data flows associated with that traffic class for a higher class if the performance falls below a specific threshold.), **and updating dynamically table entries of the service traffic flow**

classification table according to the obtained service traffic flow information (Morford: Col. 12, lines 29-34 and lines 52-58. Traffic classes are automatically created and stored in a database.);

a label switching path establishing means, for establishing a plurality of label switching paths (Morford: Figure 1);

a label switching path configuring means, for configuring the attributes of the label switching paths (Morford: Col. 4, lines 23-25. the core network is MPLS-based and uses a QoS mechanism such as DiffServ.);

a first performing means, for classifying and conditioning the service traffic flows entering into the core network according to the service traffic flow classification table (Morford: Figure 2B and Col. 7, lines 57-59. The traffic management device may be located between the access link and router (of Figure 2B), thus being in the downlink stream. Col. 7, lines 7-12. Traffic management device is configured to monitor and manage data flow based on performance attributes.);

and a second performing means, for forwarding the processed service traffic flow according to the attributes of the label switching paths (Morford: Traffic management device adds tags for outbound packets from egress interface of router. Col. 8, lines 15-19; The functionality of the traffic management device may be incorporated into a network device such as a router.).

Although Morford discloses that network administration may influence the traffic flows by assigning classes, Morford does not explicitly disclose *the service control equipment notifying the changes of the service traffic flow to the edge router in one or*

more of the following occasions: when a service session is initialized, when a service traffic flow of the service session changes, or when the service session ends.

Qing discloses a method for providing QoS in an IP network. Qing discloses **the service control equipment notifying the changes of the service traffic flow to the edge router in one or more of the following occasions: when a service session is initialized, when a service traffic flow of the service session changes, or when the service session ends** (Qing: [0085]. When a service session is successful (consistent with when a service session is initialized), the CM (bearer network resource manager) notifies the edge router. The edge router then creates items corresponding to the traffic stream into an entry to be placed into a traffic stream classification table.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Morford to allow an edge router to receive changes of service traffic flow as disclosed by Qing. This benefits the method by supplying edge routers with information to transmit packets between one another and allowing each to guarantee QoS through an IP network (Qing: [0018] and [0021]).

Regarding Claim 20, Morford in view of Qing discloses **the method according to claim 1, wherein the core network is an IP network** (Morford: Figure 1).

Regarding Claim 21, Morford in view of Qing discloses **the apparatus according to claim 17, wherein the service traffic flow information of a service traffic flow is obtained directly from the service control equipment or from the service control equipment through a resource control equipment, the resource control equipment distributing route and resource according to QoS**

requirements of the service traffic flow (Morford: Col. 3, lines 61-67 and Col. 4, lines 1-3. RSVP is used for the paths with QoS restraints.).

Regarding Claim 22, Morford in view of Qing discloses **the apparatus according to claim 17, wherein the service traffic flow information of a service traffic flow is obtained directly from the service control equipment or from the service control equipment through a resource control equipment, the resource control equipment distributing route and resource according to QoS requirements of the service traffic flow (**Morford: Col. 3, lines 61-67 and Col. 4, lines 1-3. RSVP is used for the paths with QoS restraints.).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN ELLIOTT whose telephone number is (571)270-7163. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2474

BENJAMIN ELLIOTT
Examiner
Art Unit 2474